times unity, but with higher concentrations it becomes considerably less than unity. Although this relation can be expressed by the adsorption formula $y=kc^m$ (y is the final internal, c the final external concentration, and k and m are constants), the writers do not feel the data justify the conclusion that absorption of these salts is an adsorption phenomenon.

Kations are absorbed initially in the order K, [Ca, Na], Li, [Mg, Zn], Al; as equilibrium is approached the order is K, Na, Li, [Ca, Mg]. The initial order for the anions is SO_4, NO_3, Cl; the final order, NO_3, Cl, SO_4. "Although TROENDLE'S view, that in any group of the periodic classification the metallic ions are absorbed more rapidly the higher the atomic weight, is not contradicted, yet the view that the initial rate of absorption is largely dependent upon the mobility of the ions or diffusibility of the salt is equally well supported, and can be put forward provisionally as a more reasonable hypothesis."

Another paper, by STILES and JÖRGENSEN,[22] is polemical with THODAY, concerning the method of estimating the osmotic pressure of sap by the swelling or shrinkage of the tissue when immersed in salt solutions. Using sections of the root of the red beet, they found that they neither gained nor lost in weight in 0.40 N NaCl, and that this concentration was also just insufficient to cause plasmolysis. The writers therefore maintain that this concentration is *approximately* isotonic with the beet root sap.—J. J. WILLAMAN.

Tyrosin in fungi.—DODGE[23] reports some investigations on the chemistry of the tyrosinase reaction in the fungi which turn blue or black on exposure to air. The fungi were sliced, dried, and then ground into a flour, and this fungus flour used in the investigation. "In the work with tyrosin, the dried fungus flour was added directly to the substrate, toluol added, and the mixture left to extract the enzym and the enzym to react with the tyrosin." The author studied the reactions with the amino, carboxyl, and phenol groups. A modified form of the "micro" VAN SLYKE apparatus was used for the determination of the amino nitrogen, the permutite method of FOLIN and BELL for the determination of ammonia, and the colorimeter method of DUGGAR and DODGE for the determination of the carboxyl and phenol groups.

The following conclusions are drawn from these investigations: "(1) that the tyrosinase reaction is not a deamination, although it is possible that deaminases may exist in the same organism with tyrosinase; (2) that the tyrosin molecule is synthesized into a larger, more complex molecule, in which part of the carboxyl groups is either split off as carbon dioxide, or more probably bound in the molecule so that it will not react with alkali."—J. WOODARD.

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[22] STILES, W., and JÖRGENSEN, W., On the relation of plasmolysis to the shrinkage of plant tissue in salt solutions. New Phytol. **18**:40–50. 1919.

[23] DODGE, C. W., Tyrosin in the fungi: chemistry and methods of studying the tyrosinase reaction. Ann. Mo. Bot. Gard. **6**:71–92. 1919.